National Museum. He served ably, particularly as a dioramist, until his retirement in 1979. Nelson A. Tinney assisted Willie Liggan with the increasing load of label lettering for several years. The next recruit was an exhibit worker, Edward W. Normandin, who assisted other preparators in routine production tasks. Margery Updegraff, an experienced exhibit artist, transferred from the Bureau of Reclamation to become the principal producer of illustrations, maps, charts, and other two-dimensional graphic elements needed to supplement exhibited specimens. Marilyn Biskin, also hired in February 1956, shared these assignments with her.[42]

Museums in Mission 66

Mission 66, a boldly conceived and intensively planned ten-year program, aimed to avert a crisis. It would provide the developments urgently needed if the national parks, already suffering severely from overuse, were to continue to fulfill their statutory but contradictory obligations of preservation and public enjoyment. Public use of the parks was growing at an alarming rate and would exceed the planners' estimates for the decade ahead. In this situation museums were among the many factors that could help save the parks.

Good museums played a double role. They contributed to visitors' understanding and therefore enjoyment of a park. And visitors who understood and appreciated the significance of park features tended to treat them protectively.[43] The nature of the problem, however, led Mission 66 planners to think in terms of a facility to serve a broader spectrum of visitor needs than previously associated with museums.

With the advent of PWA-funded administration/museum buildings in historical areas, most park museums shared space in multipurpose structures. The planners for Mission 66 built on this precedent. Visitors would find the new type of facility without difficulty thanks to more emphasis on strategically planned siting. It would recognize their needs as travelers and welcome them with restrooms and drinking fountains. It would provide helpful answers to their most pressing questions: where to eat and sleep, how to reach the park's prime features, how to plan their available time effectively. The building would therefore require a suitably spacious lobby with an efficiently staffed information desk as well as clear maps, schedules, and self-service orientation or information displays. It would have an auditorium or smaller room in which a relatively brief audiovisual presentation would either suggest what to see and do in the park or evoke an emotional anticipation toward important park themes. The museum exhibit room would offer a more cognitive introduction to the park story but also aim to send visitors quickly out into the park better prepared to understand and appreciate it. Those with more time and special interests would usually find here the museum study collection, the park library, and the offices or workrooms where they might consult other staff members.

While in earlier multiple-use situations the building was ordinarily referred to as the park museum, the planners wanted to call the new mix by a name that would make its service function crystal clear to the public. After some debate consensus favored "visitor center." The prompt retroactive application of the term to the pre-Mission 66 projects at Grand Canyon, Jamestown, Yorktown, and elsewhere demonstrated its general acceptance.[44]

Most parks wanted one or more visitor centers as part of their Mission 66 development. By the time the program won administration and congressional approval in early 1956, the Museum Branch knew that it would have to plan and prepare approximately one hundred new museums within the next decade, an average of about ten per year. While welcoming the challenge, the branch feared that eagerness for modern visitor facilities might lead some parks to request unneeded museums. It therefore urged Mission 66 planners to propose museums only where necessary to preserve original objects important to a park's mission or essential to help visitors understand a park.[45]

The projected rate of development obviously exceeded the capacity of the existing staff of curators and preparators, but it seemed unlikely that the workload would continue after Mission 66. The Museum Branch therefore decided to avoid building up a large force that would have to be cut back when Mission 66 ended. It would limit expansion as far as possible to the number of positions it would then need to service the increased number of park museums and take care of normal growth.[46] Meanwhile it would augment production when necessary by contracting for exhibit preparation, a method the laboratory had used sparingly.

Before work could proceed on any Mission 66 exhibits, their planning demanded immediate attention. With the successful application of a team approach at Grand Canyon fresh in mind the branch acted quickly to organize three exhibit planning teams, each composed of a curator and a designer. The curator would have the academic background to wrestle with the complexities of subject matter, sort out the significant ideas, and express them in simple language. He would also have firsthand knowledge of visitor behavior in parks based on solid experience as an interpreter, or at least comparable knowledge from work in a museum. The designer would contribute mastery of form and color but also add important insights into content and communicative strategies. The team would spend enough time in a park to become familiar with its features and constraints as well as to obtain the input of the local staff. Frank Buffmire had already developed a format for exhibit plans that gave a park superintendent and other reviewers a clear picture of what the proposed exhibits would look like and say. It matched the park master plan in sheet size and contained a large colored sketch of each case and panel along with complete content specifications including label copy.

The three exhibit planning teams, referred to as the eastern, western, and history teams without circumscribing their scope by these titles, began work even before completely staffed. Robert L. Barrel and Myron D. Sutton, both experienced and articulate park naturalists, entered on duty in March 1956 as the curatorial members of the western and eastern teams respectively. At the same time the branch borrowed temporarily Albert C. Manucy, the scholarly and versatile park historian at Castillo de San Marcos National Monument, as curator for the history team. Before returning to his park in October he made outstanding contributions to four exhibit plans, including two particularly sensitive ones. Sutton received a design partner for the eastern team in April when the branch succeeded in recruiting Edward J. Bierly, a talented artist who specialized in wildlife subjects. The laboratory lent designers to the other two teams. Russell Hendrickson collaborated with Barrel on the western team's first job, then worked with Manucy to finish one important plan. Floyd LaFayette joined Barrel for the next two western ones. In June the branch hired a new designer, Hiram R. Haggett, for the history team. All three teams attacked their assignments with skill, imagination, and energy. Each submitted its first completed plan in May and started on the next without slackening pace.[47] They would continue to function admirably through various changes in personnel until they had met the exhibit planning needs of Mission 66.

Work on an exhibit planning team made severe demands. It entailed much time in the field and pressure to keep up with construction schedules. The teams were expected to propose exhibits of endless variety and originality while maintaining existing standards that tended to limit change. Not surprisingly, planners came and went. Alan E. Kent, curator of photographic collections at the Wisconsin State Historical Society, took over Manucy's post with the history team in December 1956. After about five years he was promoted to a supervisory position in the Museum Branch. Following a reorganization in 1964 he went on to exercise intellectual leadership of Service-wide interpretive planning. A veteran park historian, John F. Luzader, took his place with the team for the remainder of the Mission 66 program. Haggett left the history team in August 1958 for a curatorship at the United States Air Force Museum under development at Dayton, Ohio. As his replacement Kent welcomed Daniel D. Feaser, promoted from an exhibit preparation position in the laboratory. A wildlife painter with excellent design sense, Feaser served ably with Kent and then Luzader until the team's work was finished.[48]

The eastern team, which addressed its assignments with a constructively critical stance toward accepted practice, had Bierly as the design member throughout the program. Sutton became an instructor at the Service's new intake training center in August 1959. Marc Sagan from the Grand Canyon naturalist staff succeeded him in October and worked with Bierly until transferring to Region One in February 1962. He was followed by Earl W. Estes, park naturalist at Mount Rainier. Estes helped tackle some important historical as well as natural history plans including one for Appomattox Court House, which had to be fitted into a reconstructed building that provided far from ideal museum space.[49]

Robert Barrel transferred the base of operations for the western team to San Francisco in August 1956 in preparation for reestablishing a western museum laboratory. He worked with borrowed designers, as noted above, until the appointment of John W. Jenkins that October. Barrel and Jenkins collaborated on the difficult plan for the Quarry visitor center at Dinosaur National Monument before the new laboratory demanded Jenkins' full attention. Raymond S. Price, who joined the laboratory in Washington as a preparator in November 1956, followed Jenkins as the western team designer in May 1957. Like Sutton, Barrel received a tempting offer in August 1959 and left to become naturalist for Hawaii National Park. Leland J. Abel, an archeologist serving as Region Four curator in San Francisco, replaced him promptly. Because of an extended special assignment that earned a unit award, the Abel-Price team could not keep up with needed exhibit plans, and Jenkins hired another designer, Herbert F. Martin, in July 1961. After Abel transferred to a park archeologist position in February 1962, Jenkins recruited two planning curators as replacements: Paul F. Spangle, a naturalist, and Gilbert R. Wenger, an archeologist. This gave the western laboratory two teams, Price and Martin pairing interchangeably with Spangle and Wenger. Even their best efforts could not meet the workload in the later years of Mission 66, and Jenkins obtained two more exhibit designers: Gerald Ober from the Jefferson National Expansion Memorial in January 1963 and David Ichelson from his position as laboratory shop supervisor that October.[50]

By the end of the ten-year program the planning teams, east and west, had turned out an impressive volume of carefully and imaginatively conceived plans, not all of them for park museums. Within the first year management saw the value of dovetailing wayside interpretation with museum content, so the Museum Branch assigned planning for both to the teams. Thus Sutton and Bierly devised the exhibits not only for the new visitor center at Flamingo in Everglades National Park but for the series of interpretive stops Superintendent Daniel B. Beard had proposed along the road leading to it. Management could not resist using the teams' skills to plan temporary exhibitions such as those for a governors' conference, a

World Forestry Congress, and a Boy Scout Jamboree in 1960. Team planners were lent to Mississippi, North Carolina, and the Army to aid in museum development projects. Bierly's broad talents led UNESCO to borrow him as an expert to assist the Rhodesian government in planning and developing its museums. Spangle interrupted his regular work with the western teams for a three-month park planning assignment in Jordan and later served on the team sent back to Jordan and Turkey.

The history team had a share of these extra duties and carried another burden. Because the Civil War Centennial fell within the Mission 66 period and the Park Service had most of the war's major battlefields, the team faced the need to plan exhibits for a daunting succession of battlefield museums. Similarity in the material culture and in the general nature of story content taxed the ingenuity of both curator and designer to make each of these museums unique and specific to its place yet clearly related to the others. Watching visitors use the museum accompanying the Gettysburg cyclorama left little doubt that the history team served the centennial well. For some of the later projects the eastern team shared this load and demonstrated its capability in planning Civil War exhibits.

The sheer number of exhibit plans the three teams produced made their adequate review a problem in itself. To ensure that they merited approval, Ronald Lee instituted a multidisciplinary scrutiny of each. Beginning in February 1957 he brought to the Museum Branch as often as necessary a delegation of interpretive and subject matter experts from the History and Natural History branches. A Museum Branch representative explained each proposal in detail, after which open discussion led either to agreement or a call for revision. When Lee became satisfied as to the accuracy, feasibility, and likely effectiveness of the exhibits proposed, he defended them at the director's plan review. During the first five months of this procedure twenty exhibit plans along with thirty museum prospectuses passed such careful screening.[51]

Good museums depended as much as ever on cooperation between museum specialists and architects. The visitor center concept involved enough fresh problems to make close collaboration even more important. Fully appreciating this, Lee was instrumental in scheduling two conferences among Service interpreters, museum specialists, and architects early in the program. The first met at the Eastern Office of Design and Construction, Philadelphia, for a week in November 1957. The conferees discussed visitor centers currently on the drawing boards, debating details and general concepts. A similar meeting at the Western Office of Design and Construction, San Francisco, followed in February 1958. The combined report clarified thinking on visitor center functions and design factors. Lee and Chief Architect Dick Sutton submitted it promptly to Director Wirth with a list of recommendations.[52]

One of these addressed the principal point of contention at the time between architects and curators. The architects pleaded the merits of open design. While this trend influenced plans for many types of structures, it seemed especially important that visitors entering one of the new park centers not lose contact with the outdoors. Curators heartily approved of openness for lobbies and many other interior spaces, but they stressed the need for control of light in rooms containing museum specimens. Lee and Sutton agreed on this, and most Mission 66 visitor centers followed suit. Some architects continued to oppose the judgment that concern for specimen conservation should outweigh the visual attractiveness of window-walled museums, however. They dubbed exhibit rooms that met museum lighting standards "black boxes" and later found allies in the exhibit design field.

During 1956 the Museum Branch continued to add artists and craftsmen to its laboratory staff to fill specific needs. John Babyak, a former preparator at the American Museum of Natural History who possessed useful experience as a rigger, reported in April. Marion B. Stewart joined the staff as an artist in June and worked principally on preparation. In June also the laboratory hired Alfred Lloyd Lillie, a young sculptor fresh from art school whose talent far exceeded the paper qualifications that determined his pay. He served well for nearly a year before undertaking advanced studies. Later he fulfilled special sculpturing assignments under a "when actually employed" appointment and returned to full-time status for a while before joining the Boston University art faculty.

Frank Phillips, a park maintenance employee whose workmanship and cooperativeness had impressed the installation crew at Custer Battlefield, transferred to the laboratory in July and took on much of the exhibit case and panel construction. After assuming supervisory responsibility in 1964, he proved a hard taskmaster and supported changing design trends that deemphasized concern for exhibit maintenance and specimen protection. Diligent, practical, resourceful, and accurate, he remained with the laboratory until retiring in the mid-1970s. In August came Dan Feaser, who served as a skilled exhibit artist until promoted to the history planning team, and Arlie P. O'Meara, who for the rest of his career operated the spray booth—a necessary task requiring a special kind of reliability along with a good eye and steady hand. In October John A. Segeren was hired as a model maker. He transferred to the western laboratory in September 1958 and returned when it closed, becoming most active as a wood carver. Two more artists engaged in November rounded out the preparation staff: Richard H. Jansen, a mature, Wisconsin-trained painter, and Ray Price.

Only a few later changes occurred in the laboratory's production crew during Mission 66. In June 1958 Arlton C. Murray, an experienced preparator, was assigned from other duties to work on exhibits. Kenneth

Dreyer replaced his father as model maker in July 1960. During summer vacations earlier in the program a high school shop teacher, Clair H. Younkin, provided valuable temporary help.[53]

Also essential to the task was increased curatorial support. Mission 66 museums, like their predecessors, each had a story to tell and set out to exhibit the specimens and graphics that would tell it most effectively. The exhibit plan generated a want list to accomplish this. Whether or not the objects needed were already in the park collection had little bearing on their selection. If they were not, Museum Branch curators faced the problem of finding and acquiring them. Efficient exhibit production demanded that the specimens be in the laboratory on schedule, imposing a continual succession of deadlines.

To carry the main burden of search and acquisition the branch hired a new curator in July 1956. Joseph Fred Winkler, a geographer well recommended by his colleagues at the National Archives, combined skill in evaluating and employing reference resources with systematic, tenacious application. When one plan called for a specimen of the extinct passenger pigeon, for example, he obtained a fine mount on time and without fuss. Other staff curators assisted when they could, but Winkler bore the brunt of supplying the preparators with the specimens for exhibition. In July 1956 also Laurence Cone relinquished his duties as an exhibits construction specialist to assist with the curatorial workload. Besides helping with acquisitions, he acted as laboratory photographer and organized the slide files until departing in August 1957 to become curator of the Southern Plains Indian Museum. When the forthcoming Civil War Centennial created a special need for an expert on the war and its material culture, Lee A. Wallace transferred in December 1957 from his position as park historian at Chickamauga and Chattanooga National Military Park to the Museum Branch as exhibit research historian. He provided a continual flow of factual and pictorial data to meet innumerable exhibit needs during the centennial program.[54]

Tempo S did not have vacant rooms suitable for shop use when the need to expand arose. In the summer of 1957 the General Services Administration rented the Park Service a second floor area in another temporary building across Independence Avenue for a laboratory annex. A more convenient location, the rear portion of a wing in Tempo S adjacent to the main laboratory, soon replaced it. GSA also agreed to air condition the laboratory space in Tempo S, completing the installation in June 1958. Although the system could not provide the stable conditions now recommended for museum environments, it greatly facilitated exhibit production during Washington's muggy summers. The Museum Branch later expanded into three front offices as well and borrowed vacant rooms on occasion to serve special needs.

John W. Jenkins. Chief, Western Museum Laboratory.

It became apparent at the outset that museum development under Mission 66 would justify reestablishing the Western Museum Laboratory. Besides boosting exhibit production, a laboratory in the West would reduce the costly and hazardous transcontinental shipment of specimens and exhibits. Museum staff could also work much more closely with architects in the Western Office of Design and Construction and with many of the client parks. Setting up and managing the new facility would require someone with broadly based museum experience not easily obtained within the Park Service. The job would demand strong leadership yet willing support of the Service's established museum standards and curatorial policies.

The branch had by chance hired a number of able employees educated or trained in Wisconsin, including Floyd LaFayette and Harold Peterson. They urged the selection of John Jenkins, whom they knew and respected as chief curator of the Wisconsin State Historical Society. Jenkins responded with interest to a March 1956 letter that referred primarily to work on the western planning team with only a suggestion of larger prospects. From this start the Museum Branch secured the establishment of two positions, to be filled consecutively. The first permitted Jenkins' appointment as designer on the exhibit planning team in San Francisco while he also laid the groundwork for the projected laboratory. He took up these duties in October 1956. His advancement to the second position as chief of the Western Museum Laboratory followed in September 1957.[55]

The laboratory was still far from a functioning reality. The Service proposed to house it in the old United States Mint, conveniently located in downtown San Francisco. This massive and somewhat derelict structure had briefly provided the last home for the prewar laboratory. Now it was the focus of controversy between preservationists who wanted to save the building and developers who hoped to demolish it. Locating the laboratory in the Old Mint gave the preservationists a toehold, but its fate remained unsure throughout this occupancy.

GSA assigned basement space in the building for laboratory use on September 28, 1957. Assistant Regional Director Herbert Maier, who thirty years before had so ably designed and supervised construction of park museums for Yosemite and Yellowstone, helped expedite preparation of the space. Work got underway to adapt the old vaults and narrow corridors for laboratory use in January 1958, with the Service footing the bill. Jenkins did not wait for the contractor to finish. On March 17 he started moving in and setting up equipment, and exhibit production began in earnest a week later.[56]

The Washington Office established eleven permanent positions for the western laboratory in September and October 1957. These would provide Jenkins with an office staff of one clerk-stenographer and an administrative assistant, a curator to function as Winkler did in the eastern laboratory, four exhibits construction specialists, and four exhibits workers. Jenkins requested the transfer of David Lillis from the eastern laboratory to procure equipment and supplies for the preparators. Until Lillis arrived in December Ray Price, whose position on the planning team now came under the new laboratory, saw to these chores. In November D. Robert Hakala, a naturalist who had demonstrated his intelligence and energy in National Capital Parks, reported as laboratory curator. Laura D. Obwald moved from the Region Four Office as secretary and C. Kenneth Kegler as administrative assistant in December. Six preparators arrived in March 1958. John Babyak transferred from the eastern laboratory. William D. Berry, a first-class wildlife artist, and Bernard Perry, another able artist, gave the laboratory a solid basis particularly for graphics. Marian S. R. Fischer and Jean H. Rodeck (Swearingen) assisted them as exhibits workers. Less experienced than most of the others, Edward LeRoy Vella brought artistic training and enthusiasm. The crew plunged into building exhibits for the unique Quarry visitor center at Dinosaur National Monument, scheduled for dedication June 1. In less than ten weeks twelve creditable exhibits were ready for installation.[57]

The laboratory's preparation staff grew modestly during the remaining years of Mission 66. In July 1958 John Segeren, model maker in the eastern laboratory, replaced Babyak upon the latter's return to Washington. That October Jenkins hired a promising young art student, Dick T. Morishigi, who advanced steadily and became the shop supervisor in 1963. Two other preparators entered on duty in late 1958. Clair Younkin, who had proved his worth during summers at the eastern laboratory, and Reginald W. Butcher, a reliable and skillful exhibits worker, enhanced production throughout the program. Jenkins added three more to the staff in 1961: David Ichelson, who began as shop supervisor, Francisco G. Garcia, an exhibits worker, and Herbert Carey, a 65-year-old illustrator. In October

1962 Joseph H. Rockwell transferred from a maintenance job at Death Valley National Monument to become an able and productive illustrator.[58]

As the number and variety of exhibits under construction increased, so did demands on the staff curator. The lead position changed hands three times during Mission 66 and a fourth time soon after as each incumbent accepted offers for professional advancement. Robert Hakala carried the load ably until January 1962, when he transferred to the regional office as a park planner. Richard M. Howard, archeologist at Canyon de Chelly National Monument, then performed the arduous duties for two years before moving back to a field archeology position at Mesa Verde National Park. In February 1964 Edward D. Jahns, also an archeologist, left Ocmulgee National Monument to replace him. Jahns stayed until May 1967, when the Western Region asked him to reactivate the regional curatorship vacated by Leland Abel in 1959. Vernon C. Tancil from the Independence National Historical Park curatorial staff filled the critical position thereafter until the laboratory closed.[59]

These men could not supply the need unaided. Jean Rodeck switched from the preparation staff to become an assistant curator under Hakala during 1960, and John B. Johnson held the job for most of the following year. In 1962 Jenkins tried to fill the gap by hiring an experienced curator, Sally Johnson Ketcham, on a when-actually-employed status, but she found that growing family responsibilities made the arrangement impractical. Thereafter he hired a succession of bright, energetic novices, including several scions of Park Service employees, as temporary curatorial assistants.[60]

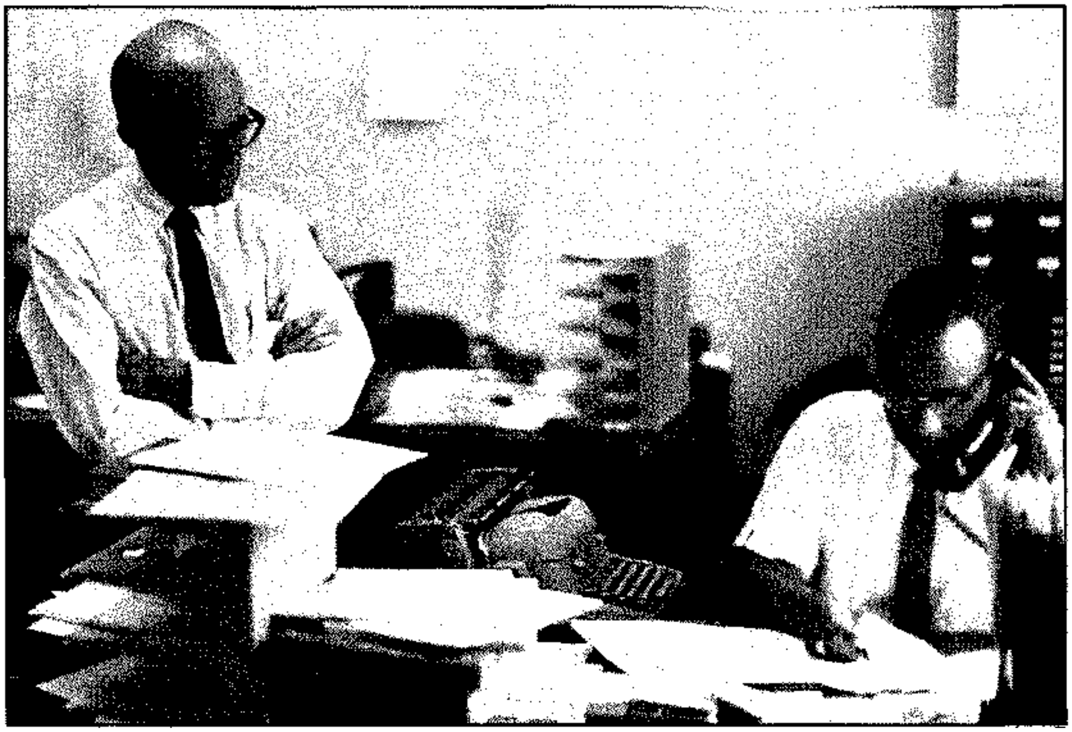
The laboratory also benefited from the exceptional expertise of a part-time consultant, Carl Russell. One of the western laboratory's first projects involved planning and preparing exhibits for a new visitor center at Moose in Grand Teton National Park. Regional Historian Merrill J. Mattes's museum prospectus called for about 25 exhibits largely concentrated on the Rocky Mountain fur trade. It thus proposed to fulfill a dream of Russell nearly thirty years earlier when he worked as the Service's first museum expert. Russell's advice on these exhibits helped give them depth and detail unusual in park museums.

Although the Moose fur trade museum proved exemplary from the standpoints of historical and curatorial scholarship, exhibit design, and execution, it severely stretched the Park Service concept of a museum's proper function in a park. Fur traders had crisscrossed the land within park boundaries, but specific sites of significant events or activities lay elsewhere. The exhibits could not direct visitors into the park to relate its prime features to what they had learned in the museum. This divergence from the site museum concept perhaps made it easier 14 years later to eclipse Grand Teton's natural history site museum at Colter Bay with a gallery of American Indian art, popular but also largely extraneous to an understanding of the park.

Management of the laboratory was especially difficult for a newcomer to the Park Service. The growing load of exhibit planning and preparation, combined with unfamiliar federal procurement and personnel policies, engendered innumerable problems. Production had just gotten into full swing in the summer of 1958 when John Jenkins was called back to Wisconsin for three weeks by a death in his family. This incident reinforced Jenkins' request for a second in command familiar with the procedures, policies, and standards the Museum Branch had found most satisfactory. As a result Floyd LaFayette moved from the eastern laboratory to become assistant chief of the western laboratory in January 1959. Although Jenkins and LaFayette would meet unforeseen difficulties, the move proved a happy choice for both men and a substantial benefit to the Service.[61]

The first difficulty involved special assignments. When funding in 1960 enabled the long-delayed development of the Jefferson National Expansion Memorial to resume, Superintendent George B. Hartzog, Jr., demanded that the Museum Branch send him its best exhibit planner. Subsequent actions suggest that he would have preferred to leave exhibit designing to Eero Saarinen, the eminent architect who had won the competition for the memorial, but Director Wirth insisted that details of interpretation remain in Park Service hands.[62] The Museum Branch accordingly asked Jenkins to undertake a six-month detail in St. Louis. Taking the content material being developed by a research team working at top speed under park historian William C. Everhart, Jenkins completed a museum layout plan incorporating more than two hundred exhibits under twelve thematic units. A new team employed at the park undertook detailed planning for the individual exhibits, but the project continued to make serious inroads on Jenkins' time.[63]

The branch also drafted LaFayette to work on urgent problems outside the western laboratory's full program. In mid-1962 the American Museum of Immigration slated for the base of the Statue of Liberty critically needed help in exhibit planning. By no means a typical park museum in concept or development, it fell outside the team schedules, and the branch had concurred in letting the park historian and a contract curator undertake the job. Although both had done excellent work on park museum projects before World War II, the plan they produced revealed that they had not kept up with changes in the field: it analyzed and organized the immigration story skillfully but attempted to tell it with 1930s exhibitry. With time running out as structural work on the museum was about to begin, the branch asked LaFayette to prepare a new plan. He did so successfully in collaboration with the park historian, Thomas Pitkin, and Alan Kent. It



Floyd A. Lafayette (left) with procurement assistant Andrew Summers.

took him most of the summer of 1962 with additional work on it interrupting his regular duties until its completion the following year.[64]

The second difficulty that plagued the western laboratory involved staff health. After a series of unsuccessful operations during 1964, Jenkins died that September at the age of 53. His death deprived the Service of a true museum expert. LaFayette carried on as acting chief of the laboratory until appointed chief in June 1966. Then his health failed in turn. By that time the Service had largely accomplished its Mission 66 objectives and turned toward new emphases.

The western laboratory constituted only one of the Museum Branch programs launched or expanded under Assistant Director Ronald Lee's leadership. To help cope with its many tasks the branch welcomed Harry C. Parker in October 1956. An impaired heart had forced Parker to give up his career as an energetic and popular naturalist in a succession of western mountain parks. He brought to his new job of museum specialist a valuable professional background and a determination to do his full share. His appointment made it feasible to reactivate the annual Museum Methods Course, which he helped prepare for and instruct. Parker's cheerful and expert service continued until his death in August 1961 at the age of 55. Alan Kent, although not completely freed of his planning team duties for another year, filled the gap he left.

When LaFayette had transferred to San Francisco two years earlier, James Mulcahy agreed to return to the branch from his curatorial post at Independence National Historical Park. Reporting in April 1959, he became Assistant Chief Frank Buffmire's principal collaborator in managing the eastern laboratory. Mulcahy shouldered a double load when the branch suffered another grievous loss in November 1963. Buffmire, whose talents had undergirded the quality and efficiency that characterized park museum development for more than a decade, left work early on a Friday to visit his doctor. He had survived a serious heart attack and felt disturbing symptoms. He died two days later at the age of 56.

Changes in Service organization concurrent with these events affected the branch in other ways. At the end of 1959 Ronald Lee left the Washington Office to become regional director in Philadelphia. His decision to move reflected departmental management policies that called for bigger organizational units and fewer assistant directorships. In Philadelphia he continued to work supportively with the Museum Branch, some of whose largest and most complex projects lay within his region. Daniel Beard succeeded Lee as chief of the Division of Interpretation, serving from January 1960 until the Washington reorganization took full effect the next year. The Museum Branch found Beard knowledgeable and helpful toward its concerns.

In the fall of 1961 Jackson E. Price became assistant director for Conservation, Interpretation and Use. His responsibilities included operations, maintenance, ranger services, safety, and concessions management along with most of what had been the Division of Interpretation. The former Branch of History became the Division of History and Archeology, the Branch of Natural History became the Natural History Division, and the Museum Branch joined two new branches, Research and Interpretation, in a Division of Research and Interpretation. Because this division remained nominal only, without a chief, the Museum Branch continued to report to Assistant Director Price, who gave its needs close attention and consistent support. His expert grasp of legal problems proved especially helpful when the branch's contract practices came under attack.

The branch customarily contracted for a variety of goods and services, including exhibit cases, collection storage equipment, and to a lesser extent exhibit production. The latter included certain photographic, silk-screen, metal casting, and other processes requiring equipment it would not pay the laboratories to install. The laboratories also secured by contract particular expertise, in taxidermy and flower modeling for example, which they needed only occasionally. In addition, when staff preparators could not keep pace with building construction, the branch contracted with display firms to produce and even install some exhibits.

In 1950 a display company in Washington contracted to prepare exhibits for the Ocmulgee museum rotunda while the laboratory concentrated on the more complex ones for the main room. The experimental collaboration went quite smoothly, although the contractor displayed an unfamiliarity with the proper handling of museum specimens. The next contract venture involved a larger Chicago firm that built exhibits for the Blue Ridge Parkway's Craggy Gardens visitor center in 1957. Two of the panels proved unacceptable. Getting them corrected convinced the branch that exhibit contractors needed to be near enough to allow regular inspection of their work.[65]

The branch did all its contracting through the Service's procurement officer, Roger Rittase. An artist himself, Rittase appreciated the difficulty of writing bid specifications for exhibit production. Display firms did most of their business for clients who wanted to sell something, while museum exhibits had a quite different psychological purpose and operated in a less strident environment. The different aesthetic quality and effect desired proved baffling to describe in unmistakable terms. Consequently the branch developed a bidding procedure that used the normal exhibit plan as the basic specification. Potential bidders studied the plan and in conference with the laboratory discussed in detail matters of style and practice required by museum standards. This was the situation when Mission 66 considerably augmented the exhibit production let to contractors.

When Rittase retired in November 1960, his replacement from the field, Houston Turner, took strong exception to the branch's procedure in exhibit contracting. His objection verged on a charge of unethical practice. While rejecting the implication, Assistant Director Price proposed that the new chief of property management select a procurement specialist whom the branch would hire to oversee contract purchasing at first hand. A procurement and property management officer for the branch accordingly entered on duty in August 1963. He did not solve the problem of writing tight specifications but introduced more formal bid conference procedures to ensure that each bidder perceived he had equal consideration.[66]

A mid-course analysis indicated that during the first four years of Mission 66 the laboratories provided well over a thousand exhibits. These included ones for 37 visitor centers, close to the projected rate of ten new centers a year. The centers averaged only 23 exhibits apiece (counting information displays for the lobby as well as interpretive units for the museum), allaying fears of runaway development in park museums. Unit costs of preparing exhibits increased, but only moderately. The average per exhibit stayed between $1,300 and $1,400 through 1960. After 1961, with labor and material costs continually rising, the figure climbed above $1,800. Throughout Mission 66 both eastern and western laboratories strained for maximum output to keep pace with building construction schedules. Some new centers did have to wait for their exhibits, and in a few cases the laboratories had to store finished exhibits until a building was ready. Neither laboratory lowered its quality standards to speed the work. Both found satisfaction in the results.[67]

The two laboratories, 2,800 miles apart, had very little opportunity to see each others' work. Each had its own talented designers and preparators. They worked on projects for different parks, each of which presented unique aspects for interpretation. Every visitor center was tailored to fit a specific situation. Most Mission 66 exhibits nevertheless shared a stylistic mode that Park Service people in particular noticed.

Almost all park museums used a narrative approach, with exhibits sequentially arranged to present a series of related ideas illustrated by carefully chosen objects and graphic supplements.[68] Both laboratories tried to place every object and label within the best viewing range, a quite limited vertical span. Both used dust-tight cases with external lighting to protect vulnerable specimens on exhibition. Current taste called for recessing most of these cases into furred walls, which gave a neatly finished appearance of permanence without hindering future flexibility. Exhibits not requiring encasement usually took the form of open panels attached to the walls. The need to ship exhibits from the laboratories to the parks favored units of moderate size. So did local maintenance considerations. The latter also dictated general uniformity in exhibit lighting provisions. Under budgetary constraints exhibit rooms allowed floor space for the number of exhibits proposed and the visitor load anticipated but not for designers' flights of fancy in exhibit layout. Considerations of durability and maintenance led both laboratories to use similar structural materials. They shared information on their experience with various plywoods, hardboards, plastics, and paints as well as with silk screening and photo mounting. Their principal point of disagreement involved circulation theory.

Sequential exhibits depend for maximum effectiveness on people viewing them in a particular order. The relatively few museums outside the parks that stressed sequence generally either structured or obtrusively marked a one-way path for viewers to take. Disliking regimentation and obvious route marking, both laboratories aimed to make the sequence as easy as possible to follow without restricting freedom of movement. From published studies of visitor behavior, confirmed by personal observation, they knew that most people tend to turn right when entering an exhibit room and proceed in a counterclockwise direction, pausing at exhibits that catch their interest, glancing at others without stopping, and usually leaving the room by the first exit encountered. Of course, exhibits especially attractive because of size, motion, sound, or some other factor might divert individuals from the normal route.

Park museum planners worked with such behavior patterns in mind. They usually asked the architects for a single undivided room with a wide doorway through which visitors would enter and exit. The eastern laboratory consistently aimed to have people move around the room in a generally counterclockwise direction.[69] John Jenkins, on the other hand, felt more comfortable using a clockwise path when the architecture made that a simpler solution. Both laboratories succeeded in getting most people to follow the intended sequence up to a point. Circulation difficulties arose when the next exhibit in the story line was not the next one along the right-hand wall. Space limitations ordinarily required exhibits to occupy the center of the room as well as the perimeter, which necessitated "bouncing" viewers back and forth across the aisle between peripheral and central units. This practice, accomplished to some extent by various extensions of the furred walls coupled with visual attractants, tended to make the sequence too complicated. Associate Director Eivind T. Scoyen recommended numbering the exhibits, but the Museum Branch feared the numbers would distract attention from the interpretive content.

The recurrent problem of circulation underlined a longstanding need the branch felt for critical evaluation of the effectiveness of park museum exhibits. The specialists who designed and built the exhibits had little or no opportunity to observe how they worked. A small installation crew got a brief look at the finished job, usually through tired eyes, just before the formal opening. Almost never did planners, preparators, or their supervisors have an adequate chance to see the museum in normal operation, to watch visitors react to the exhibits, to learn which features seemed to work and which did not.[70]

The branch also craved objective evaluation from outside its staff to gauge how well the exhibits it produced served their purposes. Behavioral scientists had developed two methods of conducting such research. One, involving close observation of a sufficient sampling of visitors, assumed that various measurable aspects of behavior reflected what went on in the minds of those observed. The other method used systematic questioning to assess quantitatively what a random selection of visitors took from the exhibits. The branch had some hope that park interpreters might engage in these studies and included a unit on exhibit evaluation in the annual Museum Methods Course. After they returned to their parks, however, few trainees attempted systematic studies of visitor response to exhibits.[71] The branch saw one chance for a really professional study slip away but later established contact with an Office of Education project fostering exhibit evaluation research.[72]

While scientific testing continued to elude its efforts, the branch did receive a flow of subjective comment that had cumulative impact. It solicited some of this from Carl E. Guthe, a highly respected practical museologist. Previously director of the New York State Museum, Guthe served the American Association of Museums as research associate from 1953 to 1959. In this capacity he crisscrossed the country with a house trailer studying particularly the problems of small museums. Ralph Lewis secured his appointment as a collaborator without compensation and invited him to visit and critique as many national park museums as he could in his travels.[73] Guthe's reactions to the park museums he saw were consistently favorable, no doubt partly because the new visitor centers with their professionally designed and executed exhibits contrasted sharply with the majority of struggling small museums his studies involved.

Another source of outside evaluation tended to counterbalance this impression. Following completion in 1957 of the extensive developments at Colonial National Historical Park, the Service engaged a communications expert from academic circles to review the new installations. His pungently worded and aptly illustrated report identified numerous flaws ranging from the design of information desks to the architecture of auditoriums. In the museums he pointed out specific circulation difficulties, exhibit design concepts that failed, and specimen installations that did not fulfill their potential.[74] His outspoken criticisms served to sharpen the eyes of Service personnel.

Most of the criticism directed at the exhibits in park museums came from within the Service. Carl Russell represented the viewpoint of material culture specialists and of collectors generally. He called on park museums to make greater use of historic objects in their exhibits and to label them more fully. Two Service colleagues echoed these recommendations when he made them in a paper before the Western Museums Conference in 1956. The plea for more specimens surfaced again in a discussion at the 1957 superintendents' conference. It was still being voiced strongly to the Western Historical Association at its 1963 meeting.[75]

The Museum Branch had in fact placed considerable emphasis on specimens as evidence, illustration, and stimulus in its innovative development of narrative exhibits. It felt that injecting additional objects merely for their inherent interest would be a backward step. As for fuller labeling, Herbert Maier criticized park exhibits as having too much text.[76] Between these contradictory views the branch strove to keep individual labels brief. It set 25 words as the desirable limit, which planners could not always achieve but at least approached. It trimmed drastically the label copy proposed by most park interpreters. Narrative exhibits as conceived by the branch did require fairly prominent title and key labels. These perhaps made the verbal content more obvious although not more lengthy.

Participants at the Chief Park Rangers' and Interpreters' Conference in March 1959 commented on the similarity in general appearance of park museum exhibits. This became the most consistently perceived fault of